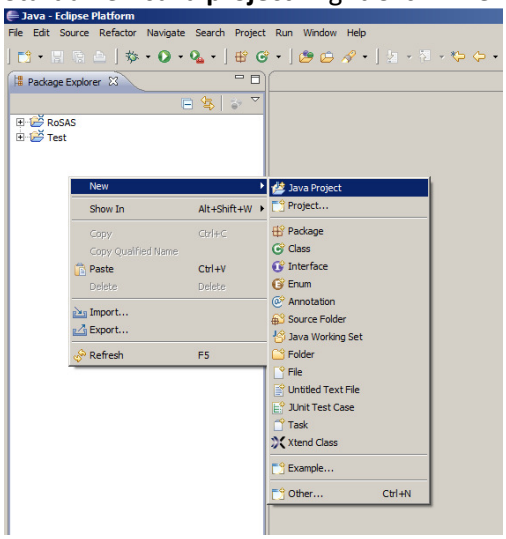
User Guide - Serendip Modelling Tool

Installation

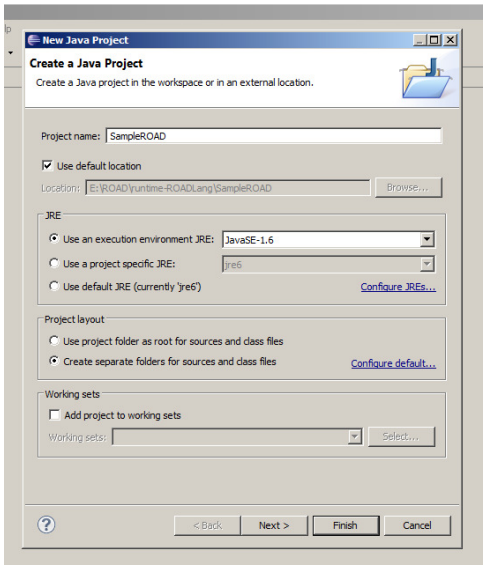
- Download the eclipse development environment from here.
  http://www.ict.swin.edu.au/personal/mkapuruge/files/*eclipse-jee-indigo-win32-withXtext.zip*
  The archive provided in the above URL contains eclipse development environment with XText installed. It also comes with SerendipLang plugin installed.
- Open and extract the archive.
- Start eclipse : eclipse > eclipse.exe

Creating a Project

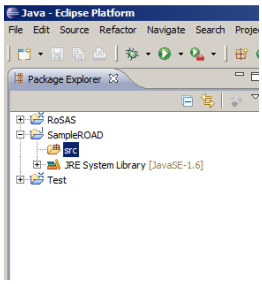
Start a new **Java project**. Right Click > New > Java Project



Enter Suitable name and Click '**Finish**'

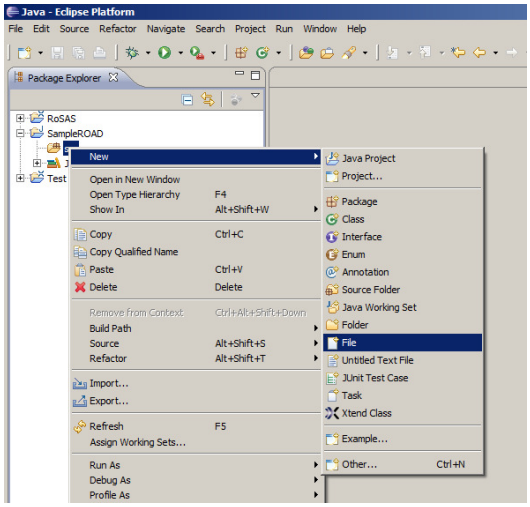


You should be able to see a new project created. And there should be a **src** directory inside the project.

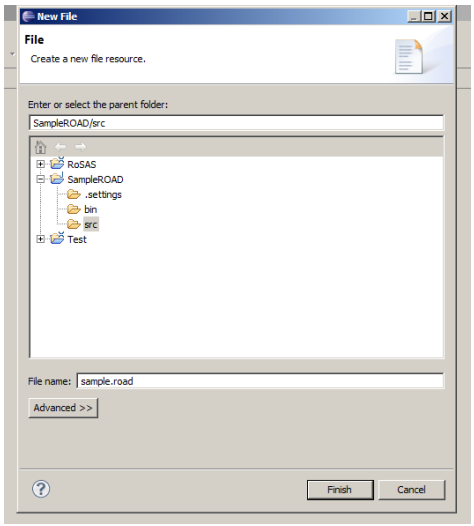


Creating a new ROAD descriptor

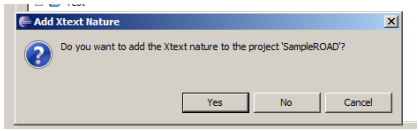
Create a **new File** under **src** directory. Right Click > New > File



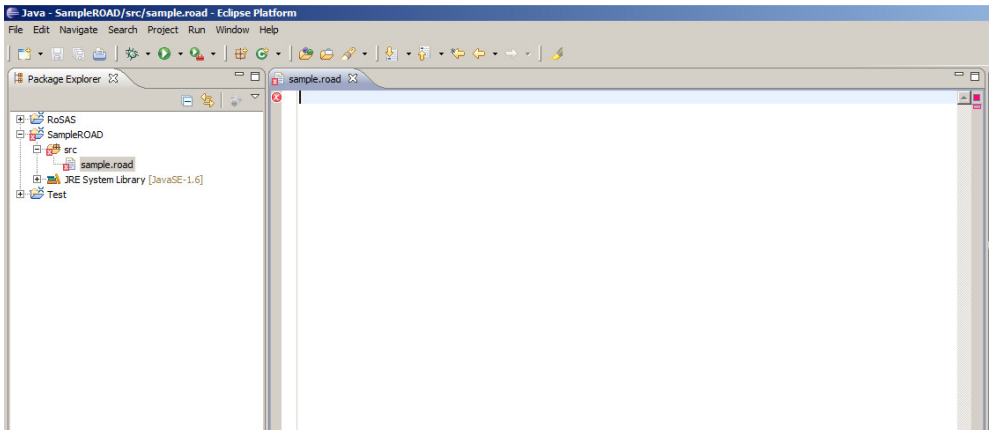
Give a new to the file. Make sure to have the extension *.road. e.g., sample.road. Then press **Finish**.



Confirm the XText nature by pressing **'Yes'**.

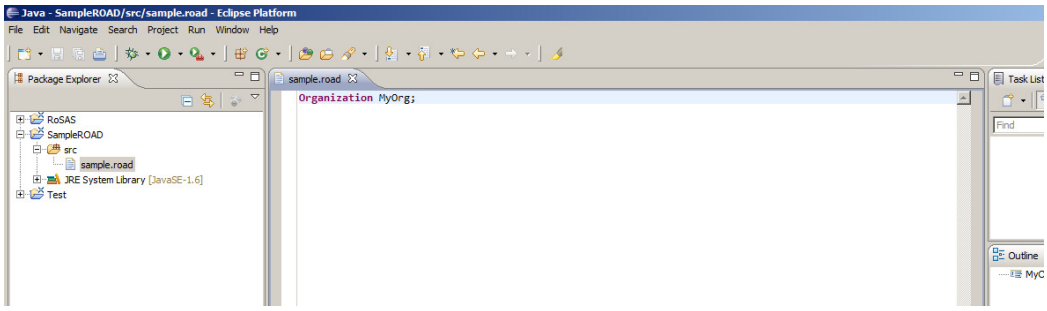


Now open the file sample.road (this should be opened by default)



Writing a ROAD description

In the sample.road start typing the ROAD description as given below. Or else enter the sample code given below as an alternative.

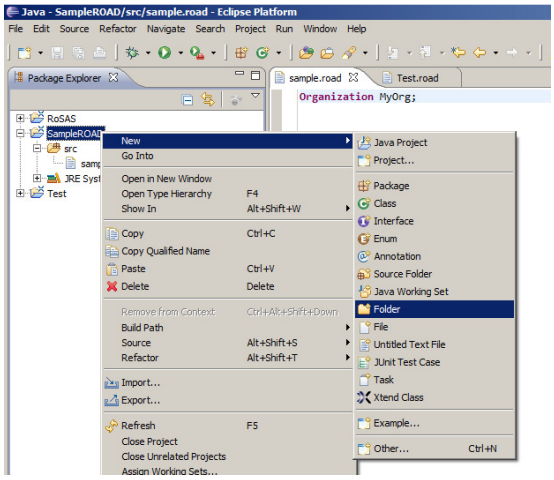


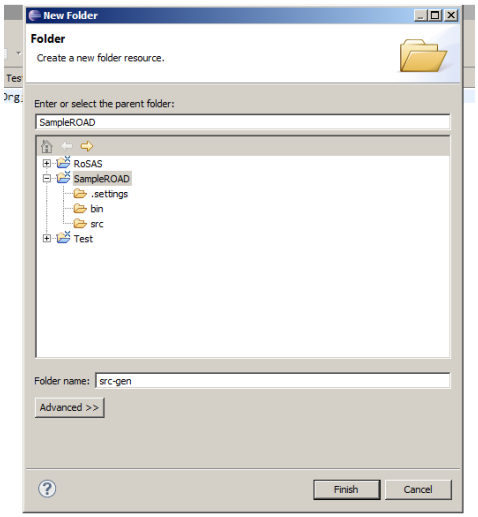

```
Organization MyOrg;

/* One and only process definition. But can have more */
ProcessDefinition myProcess{
          CoS "eComplainRcvd";
          CoT "eCaseClosed";
          BehaviorRef bTowing;
}

/* One and only behavior unit. But can have more */
Behavior bTowing{
          Task tAnalyze performedBy CO{
                    InitOn "eComplainRcvd";
                    UsingMsgs CO_MM.complain.Req;
                    UponTriggers "eTowRequired";
                    ResultingMsgs CO_TT.towRequest.Req;
          }

          Task tTow performedBy TT{
                    InitOn "eTowRequired";
                    UsingMsgs CO_TT.towRequest.Req;
                    UponTriggers "eTowDone";
                    ResultingMsgs CO_TT.towRequest.Res;
          }
          Task tNotify performedBy CO{
                    InitOn "eTowDone";
                    UsingMsgs CO_TT.towRequest.Res;
                    UponTriggers "eCaseClosed";
                    ResultingMsgs CO_TT.towRequest.Res;
```

```
        }
}

/* Contract definitions */
Contract CO_TT{
        A is CO, B is TT;
        Term towRequest (String : content) withResponse (String: response) from AtoB;
}

Contract CO_MM{
        A is CO, B is MM;
        Term complain (String : content) withResponse (String : response) from BtoA;
}

/* Role definitions */
Role CO;
Role TT;
Role MM ;

/* player bindings */
PlayerBinding "http://anyurl.com" is a CO;
PlayerBinding "http://anyurl.com" is a TT;
```

Generating artefacts

Now create a new folder **src-gen** in the project root as shown below. Right Click > New > Folder





Save sample.road file once more. This should create the ROAD artefacts under the **src-gen/** directory. These artefacts includes

1. sample/sample.xml (the composite descriptor in XML)
2. sample/data/rules/*.drl (all the Drools rule templates for the composite)
3. sample/data/trans/*.xslt (all the XLST transformation templates for the composite).